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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/617,587	07/18/2000	Douglas R. Pulley	B-3970 618055-7	8643
34408	7590	06/20/2006	EXAMINER	
THE ECLIPSE GROUP 10605 BALBOA BLVD., SUITE 300 GRANADA HILLS, CA 91344			AHN, SAM K	
			ART UNIT	PAPER NUMBER
			2611	

DATE MAILED: 06/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/617,587

Applicant(s)

PULLEY ET AL.

Examiner

Sam K. Ahn

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "processing device", as recited in claim 1 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-5 and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 1 and 11, lines 7 and 3, respectively, recite "at least one correlator". Hence, the number of correlator in the receiver may be one. However, the further limitations call for performing early and late correlators to measure a difference between the early and late correlators. Therefore, the claims contain subject matter which was not described in the specification to one skilled in the art as to how early and late correlations can be performed by using one correlator. Claims 2-5 directly or indirectly depend on claim 1.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farbod et al. US 2002/0057729 A1 in view of Popovic' US 6,567,482 B1.

Regarding claims 1,6 and 11, Farbod teaches a method and a receiver circuit (see 208 in Fig.2, further illustrated in Fig.3), comprising: a processing device (208) for processing the digital samples on the basis of an assumed position (assumed position of assigning transmission delay  $\tau$  and fraction of a chip interval  $\Delta$ , note paragraphs 0040 and 0044) of the received signal (212); at least one correlator (302,304) for measuring: a first correlation (output of 316) and a second correlation (output of 320); means for comparing (306) the measured first and second correlations to produce a comparison output (error signal); and means for determining a revised assumed position of the received signal (note paragraph 0039 wherein the position is adjusted) on the basis of the comparison output (error signal) in order to tend to equalize the first and second correlations (wherein one skilled in the art would recognize that in order to properly receive a signal in any receiver an equalizer is implemented to remove inter-symbol-interferences).

Although Farbod does not explicitly teach a sampler for taking digital samples of a received signal (212), Farbod suggests other conventional circuitry are not shown (note paragraph 0035, lines 4-5), and one skilled in the art would recognize that in order for the DLL of Farbod to perform its function, a sampler is provided in order to provide the digital samples, wherein it is well-known in the art that the sampler converts analog signals to digital signals.

However, Farbod is silent about the received signal including at least a first and second portions wherein the second portion repeats the content of the first portion after a repeat interval, and does not explicitly teach the first and second correlations measured between a first and third respective group of samples including at least samples around the beginning or end of the first and third respective portion of the signal, and a second and fourth respective group of samples including at least samples around the beginning or end of the second and fourth respective portion of the signal.

Popovic' teaches, in the same field of endeavor, a receiver (see Fig.13) comprising at least one correlator (first group of 525,530,535 outputting  $R_0(t) - R_{15}(t)$  and second group of 525,530,535 outputting  $R_{16}(t) - R_{31}(t)$ ) for measuring first and second correlations first group of 525,530,535 outputting  $R_0(t) - R_{15}(t)$  and second group of 525,530,535 outputting  $R_{16}(t) - R_{31}(t)$  measured between a first portion (initially arrived signal input to 530) and a second portion, output of 535, note col.14, lines 53-62 wherein the first and second correlations takes place on all of the samples having 256 chip, thus includes the beginning and end of the first and second group of samples of the first portion, initially arrived signal input to 530, and the second portion, output of 535). Furthermore, Popovic' also teaches the received signal including at least a first and second portions wherein the second portion repeats the content of the first portion after a repeat interval (wherein the preamble is repeated, note col.14, lines 24-42, having 256 chips repeat interval and length  $T_{max}$ ).

Both Farbod and Popovic' teach correlation of the received signal, and by incorporating the correlator of Popovic' in the correlator of Farbod by correlating first group of 525,530,535 outputting  $R_0(t) - R_{15}(t)$  and second group of 525,530,535 outputting  $R_{16}(t) - R_{31}(t)$  measured between a first portion (initially arrived signal input to 530) and a second portion, output of 535, note col.14, lines 53-62 wherein the first and second correlations takes place on all of the samples having 256 chip, one skilled in the art would recognize that the correlator functions as a preamble correlator receiving the preamble, wherein the received signal comprising the preamble repeats every 256 chip, for the purpose of efficient correlation and reduce the amount of memory being used, as taught by Popovic' (note col.14, lines 22-28). Therefore, it would have been obvious to one skilled in the art at the time of the invention to incorporate the correlator of Popovic' in the correlator of Farbod.

Regarding claims 2 and 7, Popovic' further teaches wherein the first, second, third and fourth group of samples each have the same length (256 chip length) as the first and second portions of the signal (which also has 256 chip length, note col.14, lines 53-62).

Regarding claims 3 and 8, Popovic' teaches first, second, third and fourth group of samples (preamble spreading code repeatedly received in sequential manner) experience offset (expected delay  $\tau$ , note col.14, lines 40-42), wherein the

samples are transmitted received sequentially and consecutively, thus experiences equal offset.

Regarding claims 4 and 9, Popovic' further teaches wherein the offset (expected delay  $\tau$ ) is less than the length of the preamble (note col.14, line 41), at the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize that the offset duration is equal to two sample periods. Applicant has not disclosed that such offset duration provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with other offset duration because Popovic' is aware that the offset duration is less than the length of the preamble (having 256 chip). Therefore, it would have been obvious to one of ordinary skill in this art to recognize the recited limitation to obtain the invention as specified in claim.

Regarding claims 5 and 10, Popovic' further teaches wherein the first, second, third and fourth group of samples (preamble spreading code repeatedly received in sequential manner) includes a predetermined number of samples (256 chips). Therefore, Popovic' teaches predetermined number of samples of the beginning and end of the first and second portion of the signal (wherein one skilled in the art would recognize that the 256 chips of the first preamble and the next preamble include samples in the beginning and the end of the preambles).



***Allowable Subject Matter***

4. The indicated allowability of claim 1-11 is withdrawn in view of the newly discovered reference(s) to Farbod et al. US 2002/0057729 A1 in view of Popovic' US 6,567,482 B1. Rejections based on the newly cited reference(s) as explained above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Ahn whose telephone number is (571) 272-3044. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sam K. Ahn  
6/9/06

*Pham Cong Tran*

*06/10/2006*

Primary Examiner *KHANH TRAN*